What is claimed is:

1. A method for identifying an antibacterial agent, the method comprising:

(a) contacting an S-yneS polypeptide with a test compound; and

(b) detecting an interaction of the test compound with the S-yneS polypeptide, wherein an interaction indicates that the test compound is an antibacterial agent.

2. A method of claim 1, further comprising:

(c) determining whether the test compound inhibits growth of bacteria, relative to growth of bacteria cultured in the absence of a test compound that interacts with the polypeptide, wherein inhibition of growth indicates that the test compound is an antibacterial agent.

3. A method of claim 1, wherein the polypeptide is derived from a non-pathogenic *Streptococcus* strain.

4. A method of claim 1, wherein the polypeptide is derived from a pathogenic *Streptococcus* strain.

5. A method of claim 1, wherein the test compound is immobilized on a substrate, and interaction of the test compound with the polypeptide is detected as immobilization of the polypeptide on the immobilized test compound.

6. A method of claim 1, wherein the test compound is selected from the group consisting of polypeptides, ribonucleic acids, small molecules, and deoxyribonucleic acids.

7. A method of claim 1, wherein:

the S-yneS polypeptide is provided as a fusion protein comprising the S-yneS polypeptide fused to (i) a transcription activation domain of a transcription factor or (ii) a DNA-binding domain of a transcription factor;

the test compound is a fusion protein comprising the polypeptide fused to (i) a transcription activation domain of a transcription factor or (ii) a DNA-binding domain of a transcription factor, to interact with the fusion protein; and

interaction of the test compound with the polypeptide is detected as reconstitution of a transcription factor.

8. A pharmaceutical formulation comprising an antibacterial agent identified by the method of claim 1, and a pharmaceutically acceptable excipient.

9. A method for treating a bacterial infection in an organism, the method comprising administering to the organism a therapeutically effective amount of the pharmaceutical formulation of claim 8.

10. A pharmaceutical formulation comprising an antibacterial agent identified by the method of claim 4, and a pharmaceutically acceptable excipient.

11. A method for treating a *Streptococcus* infection in an organism, the method comprising administering to the organism a therapeutically effective amount of the pharmaceutical formulation of claim 10.

12. The method of claim 11, wherein the organism is a human or rodent.

13. A method for identifying an antibacterial agent, the method comprising:

(a) contacting an S-yneS polypeptide with a test compound;

(b) detecting a decrease in function of the polypeptide contacted with the test compound; and

(c) determining whether the test compound inhibits growth of bacteria, relative to growth of bacteria cultured in the absence of the test compound, wherein inhibition of growth indicates that the test compound is an antibacterial agent.

14. A method of claim 13, wherein the test compound is selected from the group consisting of polypeptides, ribonucleic acids, small molecules, and deoxyribonucleic acids.

15. A method for identifying an antibacterial agent, the method comprising:

(a) contacting a nucleic acid encoding S-yneS with a test compound; and

(b) detecting an interaction of the test compound with the nucleic acid, wherein an interaction indicates that the test compound is an antibacterial agent.

16. A method of claim 15, further comprising:

(c) determining whether a test compound inhibits growth of bacteria, relative to growth of bacteria cultured in the absence of the test compound that interacts the

nucleic acid, wherein inhibition of growth indicates that the test compound is an antibacterial agent.

17. A method of claim 15, wherein the test compound is selected from the group consisting of polypeptides, small molecules, ribonucleic acids, and deoxyribonucleic acids.

18. A method for identifying an antibacterial agent, the method comprising:

(a) contacting an ortholog of an S-yneS polypeptide with a test compound; and

(b) detecting an interaction of the test compound with the ortholog, wherein an interaction indicates that the test compound is an antibacterial agent.

19. A method of claim 18, further comprising:

(c) determining whether a test compound that interacts with the ortholog inhibits growth of bacteria, relative to growth of bacteria cultured in the absence of the test compound, wherein inhibition of growth indicates that the test compound is an antibacterial agent.

20. A method of claim 18, wherein the ortholog is derived from a non-pathogenic bacterium.

21. A method of claim 18, wherein the ortholog is derived from *Bacillus subtilis*.

22. A method of claim 21, wherein the ortholog is B-yneS.

23. A method of claim 18, wherein the ortholog is derived from a gram-positive bacterium.

24. A method of claim 18, wherein the ortholog is derived from a pathogenic bacterium.

25. A method of claim 18, wherein the test compound is immobilized on a substrate, and interaction of the test compound with the ortholog is detected as immobilization of the ortholog on the immobilized test compound.

26. A method of claim 18, wherein the test compound is selected from the group consisting of polypeptides, ribonucleic acids, small molecules, and deoxyribonucleic acids.

27. A method of claim 18, wherein:

the ortholog is provided as a fusion protein comprising the ortholog fused to (i) a transcription activation domain of a transcription factor or (ii) a DNA-binding domain of a transcription factor;

the test compound is a fusion protein comprising a polypeptide fused to (i) a transcription activation domain of a transcription factor or (ii) a DNA-binding domain of a transcription factor, to interact with the ortholog; and

interaction of the test polypeptide of the test compound with the ortholog is detected as reconstitution of a transcription factor.

28. A method for identifying an antibacterial agent, the method comprising:

(a) contacting an ortholog of an S-yneS polypeptide with a test compound;

(b) detecting a decrease in function of the ortholog contacted by the test compound; and

(c) determining whether the test compound inhibits growth of bacteria, relative to growth of bacteria cultured in the absence of the test compound, wherein inhibition of growth indicates that the test compound is an antibacterial agent.

29. The method of claim 28, wherein the test compound is selected from the group consisting of polypeptides, ribonucleic acids, small molecules, and deoxyribonucleic acids.

30. A method of claim 28, wherein the ortholog is B-yneS.

31. A method of claim 28, wherein the ortholog is derived from a gram-positive bacterium.

32. A method of claim 28, wherein the ortholog is derived from a pathogenic bacterium.

33. A method for identifying an antibacterial agent, the method comprising:

(a) contacting a nucleic acid encoding an ortholog of S-yneS; and

(b) detecting interaction of the test compound with the nucleic acid, wherein interaction indicates that the test compound is an antibacterial agent.

34. The method of claim 33, further comprising:

(c) determining whether the test compound inhibits growth of bacteria, relative to growth of bacteria cultured in the absence of the test compound, wherein inhibition of

growth indicates that the test compound is an antibacterial agent.

35. The method of claim 33, wherein the test compound is selected from the group consisting of polypeptides, small molecules, ribonucleic acids, and deoxyribonucleic acids.

36. A method of claim 33, wherein the ortholog is B-yneS.

37. A method of claim 33, wherein the ortholog is derived from a pathogenic bacterium.

38. A method for treating a mammal having a *Streptococcus pneumonia* infection, the method comprising inhibiting the function of an S-yneS polypeptide in *Streptococcus pneumonia* infecting the mammal.